

REMARKS

Claim Amendments

Claim 1 was amended to recite “wherein the scavenging blade is positioned to interpose itself between a printed wiring board positioned in the receiving portion and at least some excess fill material on the printed wiring board during such relative movement.” Support for this amendment can be found in the application as filed, in particular on page 3, lines 16-19, page 4, lines 4-7, page 5, lines 1-4, and page 6, lines 11-14. It should be noted that the phrase “interpose itself between” is equivalent to the “knifing” or shearing of the fill material as described in the specification as filed. No new matter was added.

Claim 4 was amended to include the recitations of claims 1-3 upon which it previously depended. No new matter was added. The claim is now allowable per the Office’s determination that claim 4 would be allowable if rewritten in independent form.

Claim 9 was amended to include the recitations of claim 1 upon which it previously depended. No new matter was added. The claim is now allowable per the Office’s determination that claim 9 would be allowable if rewritten in independent form. Claims 10-11 are also allowable at least because of their dependence on claim 9.

Claim 10 was amended to correct an improper dependency. No new matter was added.

Claim 12 was added. Support for this amendment can be found in the application as filed, in particular on page 5, lines 1-4. No new matter was added.

Claim 13 was added. Support for this amendment can be found in the application as filed, in particular on page 4, lines 4-7. No new matter was added.

Claim 14 was added. Support for this amendment can be found in the application as filed, in particular on page 3, lines 11-13. No new matter was added.

Claim Objections

Claim 10 was objected to on various technical grounds. Corrections were made in accordance with the examiner’s suggestions.

35 USC § 102 – Yoshikawa et al.

Claims 1, 3, and 5-8 were rejected under 35 USC § 102(b) as being anticipated by Yoshikawa et al. (US 6193144 B1, hereinafter “Yoshikawa”). The applicant disagrees, especially in view of the amendments set forth herein.

Claim 1 as amended recites: “A system comprising: a *scavenging blade*; a printed wiring board receiving portion; and a movement mechanism adapted to move the *scavenging blade* and printed wiring board receiving portion relative to each other; *wherein the scavenging blade is positioned to interpose itself between a printed wiring board positioned in the receiving portion and at least some excess fill material on the printed wiring board during such relative movement.*”

not buying
no support

The Office asserts that squeegee 4 of Yashikawa is a scavenging blade. However, a scavenging blade as claimed differs from a squeegee in that a scavenging blade is (see page 4, lines 4-7 of the specification as filed) is positioned so that its leading edge is closest to the printed wiring board and is “pushed” along the printed wiring board whereas a squeegee as used in Yashikawa is “pulled” along the printed wiring board with the portion of the squeegee closest to being a trailing edge. As a result, fill material on the printed wiring board is either pressed into or pushed along the surface of the printed wiring board with a squeegee, but is lifted off of the printed wiring board with a scavenging blade. As such, claim 1 as filed is not anticipated by any system using a squeegee but not a scavenging blade. However, for the sake of more quickly obtaining allowance of claim 1, claim 1 was amended to explicitly state that the “scavenging blade is positioned to interpose itself between a printed wiring board positioned in the receiving portion and at least some excess fill material on the printed wiring board during such relative movement.” In contrast, squeegee 4 of Yoshikawa is angled to place fill material being removed between the squeegee and the printed wiring board, and moves paste/fill material along the surface of a printed wiring board rather than away from it with a resulting tendency to cause fill material to dish-down into filled holes.

Claims 3 and 5-8 are allowable at least because of their dependence on allowable claims.

35 USC § 102 – Oikawa et al.

Claims 1, 3, and 5-8 were rejected under 35 USC § 102(b) as being anticipated by Oikawa et al. (JP-363235057A, hereinafter “Oikawa”). The applicant disagrees, especially in view of the amendments set forth herein.

As previously discussed, claims 1, 3, and 5-8 are directed to systems having a scavenging blade rather than a squeegee for removal of excess fill material. Oikawa, like Yoshikawa utilizes squeegees, not scavenging blades. This is easily determined by the text of Oikawa that expressly names element 5 as “rubber squeegees”, and figure 1 that shows substrate 1 being moved relative to squeegees 5 such that squeegees 5 are essentially pulled along the substrate with the closest edges of the squeegees being trailing edges. As has been discussed, systems that use squeegees rather than scavenging blades to remove excess fill material do not anticipate claims 1, 3, and 5-8. As such, Oikawa does not anticipate claims 1, 3, and 5-8.

35 USC § 103 – Yoshikawa et al. and Erdmann

Claims 2 was rejected under 35 USC § 103 as being obvious over Yoshikawa in view of Erdmann (US 6491204 B1). The applicant disagrees, especially in view of the amendments set forth herein. Among other things, claim 2 is allowable as being dependent upon an allowable claim. Moreover, the Office asserts that the wiping blades of Erdmann equate to the claimed scavenging blade. However, the wiping blades of Erdmann are not the claimed scavenging blade. The blades of Erdmann function as squeegees, not as scavenging blades (see figure 3 of Erdmann) in that they wipe solder paste from a stencil (column 4, lines 18-20) rather than interposing themselves between solder paste and the stencil.

Allowable Subject Matter

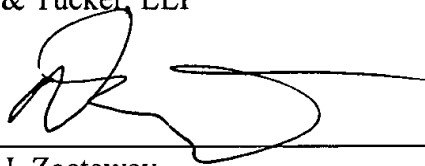
The Office determined that claims 4 and 9-11 would be allowable if rewritten in independent form. These claims have been rewritten in independent form and are now allowable.

Request for Allowance

Claims 1-14 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,

Rutan & Tucker, LLP

A handwritten signature in black ink, appearing to be 'D. Zoetewey', written over a horizontal line.

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By:

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